

Message from the ISMAR 2019 Science and Technology Program Chairs and *TVCG* Guest Editors

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In this special issue of *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, we are pleased to present the *TVCG* papers from the 18th IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2019), held October 14–18 in Beijing, China. ISMAR continues the over 20-year long tradition of IWAR, ISMR, and ISAR, and is undoubtedly the premier conference for mixed and augmented reality in the world.

There are 14 papers in this special issue, which were selected from 163 reviewed submissions, for an acceptance rate of 8.6%.

As program chairs we were aiming for the highest possible reviewing standards and conducted a decision process that aimed for final decisions in a fair, rigorous, and transparent way. We continued with the successful changes made in 2017 and additionally modified the procedure in order to improve the reviewing process.

All papers were reviewed by the Science and Technology Program Committee (PC), which comprised 25 internationally renowned experts from the Asia-Pacific region, the Americas, and Europe. The program chairs also voted on paper decisions, so the PC had 29 voting members in total.

There was a single paper submission category, papers from 4 to 10 pages in length, plus as many pages of references as needed. All submissions underwent a review process that encompassed three reviewing cycles, overseen by a coordinator from the PC. After PC members had declared their conflicts and provided their preferences, the program chairs assigned coordinators. For every PC member, as well as the program chairs, for every paper where they had a conflict of interest, both the reviewer assignments and reviewer names were hidden. In addition, we decided to switch to a double-blind process this year to allow for a fairer reviewing process. Thus, the external reviewers were not aware of the identity of the authors.

Before the reviewing began, we followed a desk rejection and a quick rejection process consistent with the policies of *TVCG*.

During the first review cycle, each submission received at least four reviews, three external reviews and one review from a PC member. Each submission was assigned with a primary and a secondary reviewer from the pool of PC members. The role of the primary was to coordinate the handling of a submission and to assign 2 external reviewers from experts within the area of research of each submission. The role of the secondary required to assign one external reviewer. After the reviewing period, there was a 10-day window during which the primary was checking the review quality and asking for improvements of insufficient reviews or asking for additional reviews if required. After the review quality window, reviewers of each submission, under the guidance of the coordinator, anonymously discussed the submission and attempted to reach a consensus decision.

The entire PC then convened for a two-day meeting, to discuss the remaining submissions, and for each one to come to a final decision. This meeting was held at Tsinghua University, in Beijing, China for the Asia-Pacific region; Virginia Tech, Blacksburg, USA for the Americas region; and Coburg University of Applied Sciences, Germany for the European region. The entire PC met simultaneously over a three-way video link. Before this meeting, submissions were grouped into three categories: bulk accept, bulk reject and to be discussed. The category bulk accept included papers that had an overall rating above a defined threshold, no score below a defined threshold and none of the reviewers were recommending a rejection. PC members were asked about these submissions if they agree with a bulk accept. The bulk reject category consisted of submission below a defined average score and no single score higher than a defined threshold. The category of papers that were discussed in the PC meeting consisted of the 68 remaining submissions for

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discussion. PC members were encouraged to raise papers for discussion at any time during the meeting.

During the meeting, after conflicted participants had left the rooms, the coordinator summarized the paper and the online discussion for the rest of the committee, and led the joint discussion. The final decision for each paper was determined by a majority vote of all remaining members of the PC. All conditionally accepted submissions were subject to a final reviewing cycle. In addition to the decision, during the meeting the PC determined the modifications that were deemed necessary for conditionally accepted papers to be accepted for publication. The set of papers recommended for conditional acceptance into *TVCG* was further approved by the *TVCG* board. For all conditionally accepted papers, the program chairs assigned a shepherd from the PC, either the paper's original coordinator or the secondary reviewer from the PC, to oversee the refinement process. The shepherd then checked whether the changes made were sufficient to warrant final acceptance. Based on this input, the program chairs made the final acceptance decisions.

Many individuals have contributed a great deal of time and energy towards making the technical program of ISMAR 2019 a success. We would like to thank the authors of all submitted papers and the members of the program committee. In total we've had 265 reviewers doing an average of 1.8 reviews and we would like to thank all of them for their many hours of hard work. We also wish to acknowledge James Stewart for his outstanding and timely support with the PCS review system. The program chairs would also like to thank the Publications Chair Lily Wang for collecting materials and assisting in the production of this special issue. We warmly thank the members of the ISMAR Steering Committee for their continuing active support. We also thank Klaus Mueller and Doug Bowman as *TVCG* liaisons for ISMAR, for support and advice with the *TVCG* papers, the General Chairs, Qinpeng Zhao, Yongtian and Henry Duh for their support throughout the entire process and all of our ISMAR community members.